

Attorney's Docket No.: 14414-024001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Diyun Huang Art Unit: 1626

Serial No.: 10/757,375 Examiner: Deborah C. Lambkin

Filed: January 14, 2004

Title : FLUORINATED PI-BRIDGE SECOND ORDER NONLINEAR OPTICAL

CHROMOPHORES AND ELECTRO-OPTIC DEVICES THEREFROM

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

TRANSMITTAL

The following correspondence relating to this application is enclosed for filing:

- 1. Information Disclosure Statement (1 page);
- 2. Form PTO-1449 (3 pages);
- 3. Copies of Cited References (23 references); and
- 4. A Return Postcard.

Please date stamp and return the enclosed postcard. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 12/2/05

Dorothy P. Whelan Reg. No. 33.814

Fish & Richardson P.C., P.A. 60 South Sixth Street Suite 3300 Minneapolis, MN 55402 (612) 335-5070 telephone (612) 288-9696 facsimile

60327050.doc

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

December 5, 2005

Date of Deposit

Signature

Lisa M. Becker

Typed or Printed Name of Person Signing Certificate

Attorney's Docket No.: 14414-024001

DEC 0 7 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Diyun Huang

Art Unit : 1626

Serial No.: 10/757,375

Examiner: Deborah C. Lambkin

Filed

: January 14, 2004

Title

: FLUORINATED PI-BRIDGE SECOND ORDER NONLINEAR OPTICAL

CHROMOPHORES AND ELECTRO-OPTIC DEVICES THEREFROM

MAIL STOP AMENDMENT

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Applicant requests consideration of the references listed on the attached PTO-1449 form. Under 37 C.F.R. § 1.98 (a)(2)(ii), only copies of foreign patent documents and/or non-patent literature are enclosed. Copies of any listed U.S. patents or U.S. patent application publications can be provided upon request.

Submitted herewith are English-language Abstracts for Desig. ID Nos. AFF, AGG, AHH, and ALL.

This statement is being filed before the receipt of a first Office Action on the merits. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Reg. No. 33,814

Fish & Richardson P.C., P.A. 60 South Sixth Street, Suite 3300

Minneapolis, MN 55402 Telephone: (612) 335-5070 Facsimile: (612) 288-9696

60325321.doc

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date of Deposit Signature

Lisa M. Becker Typed or Printed Name of Person Signing Certificate Substitute Form P7

orm PTO-1449

U.S. Department of Commerce Patent and Trademark Office

Attorney's Docket No. 14414-024001

Application No. 10/757,375

Information Disclosure Statement by Applicant

(Use several sheets if necessary)

(37 CFR §1.98(b))

Applicant Diyun Huang

Filing Date

January 14, 2004

Group Art Unit 1626

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	4,028,702	06/07/77	Levine			
	AB	4,258,386	03/24/81	Cheung			
	AC	5,041,516	08/20/91	Fréchet et al.			
	AD	5,051,754	09/24/91	Newberg			
	AE	5,198,513	03/30/93	Clement et al.			
	AF	5,207,952	05/04/93	Griffin, III			
	AG	5,223,356	06/29/93	Kumar et al.			
	AH	5,266,365	11/30/93	Kester et al.			
	AI	5,353,033	10/04/94	Newberg et al.			
	AJ	5,359,008	10/25/94	Amano et al.			
	AK	5,433,895	07/18/95	Jeng et al.			
	AL	5,520,968	05/28/96	Wynne et al.		~ .	
	AM	5,635,576	06/03/97	Foll et al.			
	AN	5,670,091	09/23/97	Marder et al.			
	AO	5,679,763	10/21/97	Jen et al.			
	AP	5,696,243	12/09/97	Beckmann et al.			
	AQ	5,714,304	02/03/98	Gibbons et al.			
	AR	5,776,374	07/07/98	Newsham et al.			
	AS	5,783,649	07/21/98	Beckmann et al.		_	
	AT	5,811,507	09/22/98	Chan et al.			
	AU	5,861,976	. 01/19/99	Hoekstra			
	AV	6,067,186	05/23/00	Dalton et al.			
	AW	6,090,332	07/18/00	Marder et al.			
	AX	6,126,867	10/03/00	Kanitz et al.			
	AY	6,130,339	10/10/00	Tan et al.			_
	AZ	6,197,921	03/06/01	Tan et al.			
	AAA	6,228,977	05/08/01	Kanitz et al.			

,,,,,,,,,,	ı olu	nature

Date Considered

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

	bstitute Form PTO-1449 odified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 14414-024001	Application No. 10/757,375
	Information Discl by App	_	Applicant Diyun Huang	
	(Use several sheets if necessary)		Filing Date	Group Art Unit
(37	7 CFR §1.98(b))		January 14, 2004	1626

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	ABB	6,294,573	09/25/01	Curtin et al.			
	ACC	6,716,995	04/06/04	Huang et al.			
	ADD	2003/0107027	06/12/03	Huang et al.			

	Foreign Patent Documents or Published Foreign Patent Applications							
Examiner	Desig.	Document	Publication	Country or			Trans	slation
Initial	ID	Number	Date	Patent Office	Class	Subclass	Yes	No
	AEE	WO 02/14305	02/21/02	WIPO				x
	AFF	44 01 911	08/03/95	DE		-	Abst.	
	AGG	44 16 476	11/16/95	DE			Abst.	
	АНН	195 32 828	03/21/96	DE			Abst.	
	AII	0 414 185	02/27/91	EP				X
	AJJ	0 637 774	02/08/95	EP				X
	AKK	0 729 056	08/28/96	EP				X
	ALL	0 754 709	07/03/96	EP			Abst.	

	Other Documents (include Author, Title, Date, and Place of Publication)				
Examiner Initial	Desig. ID	Document			
	AMM	Bosman et al., "About Dendrimers: Structure, Physical Properties, and Applications," Chem. Rev. 1999, 99:1665-1688			
	ANN	Chen et al., "Thermosetting Polyurethanes with Stable and Large Second-Order Optical Nonlinearity," Macromolecules, 1992, 25:4032-4035			
	A00	Gorman and Marder, "An investigation of the interrelationships between linear and nonlinear polarizabilities and bond-length alternation in conjugated organic molecules," <u>Proc. Natl. Acad. Sci. USA</u> , 1993, 90:11297-11301			
	APP	Kim et al., "Nonlinear optical chromophores containing dithienothiophene as a new type of electron relay," <u>J. Mater. Chem.</u> , 1999, 9:2227-2232			
AQQ Kojima et al., "Facile Synthesis of Thiophene Derivatives Using a Cyclopropenyl Cation," Synthesis, 1996, 1193-1195					
26(11):2213-2221 Ma et al., "A Convenient Modular Approach of Functionalizing Aromatic Polyquinoling Aromatic Pol		Landmesser et al., "Regiocontrolled C-8 Acylation of Castanospermine," Syn. Comm. 1996, 26(11):2213-2221			
		Ma et al., "A Convenient Modular Approach of Functionalizing Aromatic Polyquinolines for Electrooptic Devices," Chem. Mater., 1999, 11:2218-2225			
	ATT	Ma et al., "A Novel Class of High-Performance Perfluorocyclobutane-Containing Polymers for Second-Order Nonlinear Optics," Chem. Mater., 2000, 12:1187-1189			

Examiner Signature	Date Considered		
EVALUED 1 10 1 10 10 10 10 10 10 10 10 10 10 10			
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with			

next communication to applicant.

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 14414-024001	Application No. 10/757,375	
by Ap	losure Statement plicant	Applicant Diyun Huang		
(Use several she (37 CFR §1.98(b))	eets if necessary)	Filing Date January 14, 2004	Group Art Unit 1626	

	Other Documents (include Author, Title, Date, and Place of Publication)				
Examiner	Desig.				
Initial	ID	Document			
	AUU	Ma et al., "Highly Efficient and Thermally Stable Nonlinear Optical Dendrimer for Electrooptics," <u>J.</u> Am Chem. Soc., 2001, 123:986-987			
	AVV	Mao et al., "Progress toward Device-Quality Second-Order Nonlinear Optical Materials. 1. Influence of Composition and Processing Conditions on Nonlinearity, Temporal Stability, and Optical Loss," <a <u="" by="" classification="" compound="" href="https://doi.org/10.1007/j.chem.no.1007/j.</td></tr><tr><td></td><td>AWW</td><td>March, " of="" reactions="" synthesized,"="" type="">Advanced Organic <u>Chemistry</u>, 4th Edition, John Wiley and Sons, New York, Appendix B, pp. 1269-1300			
	AXX	Raimundo et al., "Push-pull chromophores based on 2,2'-bi(3,4-ethylenedioxythiophene) (BEDOT) π -conjugating spacer," <u>Tetrahedron Letters</u> , 2001, 42:1507-1510			
	AYY	Reinhardt et al., "Highly Active Two-Photon Dyes: Design, Synthesis, and Characterization toward Application," Chem. Mater., 1998, 10:1863-1874			
	AZZ	Smith, Jr. and Babb, "Perfluorocyclobutane Aromatic Polyethers. Synthesis and Characterization of New Siloxane-Containing Fluoropolymers," <u>Macromolecules</u> 1996, 29:852-860			
	AAAA	Umemoto, "Electrophilic Perfluoroalkylating Agents," Chem. Rev., 1996, 96:1757-1777			

Examiner Signature	Date Considered
EYAMINED: Initials citation considered Drewline through citation if no	